

**REMARKS**

In the final Office Action of March 26, 2008, all of the pending claims (36-52) were rejected under either 35 U.S.C. § 102(e) as anticipated by Honma (US 7,130,069) or under 35 U.S.C. § 103(a) as unpatentable over Honma in view of Leclair (US 7,069,341) or Leclair in further view of Chadez et al. (US 6,522,420). Reconsideration and allowance of the claims in light of the amendments and remarks herein are respectfully requested.

Amendments

Prior to the present Amendment, Claims 37-39 depended, either directly or indirectly, on independent Claim 36. As explained below, Applicants traverse the rejections of Claims 37-39 because none of the cited references, either alone or in any combination, disclose a printer formatter having a substrate having the processor, system I/O, formatter controller, and print server all located thereon (amended Claim 36). Also, the references do not disclose a single microchip having the processor, system I/O, formatter controller, and print server (amended Claims 38 and 39).

Independent Claim 36 has been amended to incorporate the substrate limitation of Claim 37. Claim 38 has been amended to depend on Claim 36 and recites that a single microchip includes the processor, system I/O, formatter controller, and print server. As these amendments only transfer limitations, word-for-word, from a dependent claim to an independent claim, no new matter is being introduced. Applicants also assert that none of the claims include limitations that were not already recited in the previous claim set, in the same combination. As such, the Examiner's search results for Claim 37 obviate a new search for amended claim 36 or for any of the other claims.

Amended Claim 36 provides:

A printer formatter comprising:

    a processor to perform at least a first print function associated with a print job;

    a system input/output (I/O) associated with the processor to receive an input signal and provide an output signal;

a formatter controller to perform at least a first formatting function associated with the print job; and  
a print server, in communication with the processor, to manage a print queue; and  
a substrate having the processor, the system I/O, the formatter controller, and the print server located thereon.

Amended Claim 38 provides:

The printer formatter of claim 36 [[37]] wherein the printer [[a]] formatter comprises a single microchip that includes the processor, the system I/O, the formatter controller, and the print server.

Applicants assert that amended Claims 36 and 38 and their dependent claims are allowable for the following reasons.

#### Rejections of Claims 37-39

As stated above, prior to this amendment, Claim 37 recited that the printer formatter has a substrate having the processor, system I/O, formatter controller, and print server all located thereon. The Office Action states that Honma does not disclose expressly that "the print server is located thereon." The Office Action states that Leclair overcomes this deficiency and discloses that a print server is located on the substrate. The Examiner cites Leclair col. 9, lns. 39-50 in support of this assertion, and states that it would have been obvious to a person of ordinary skill in the art to have the print server within the printer.

Applicants assert that the conclusory statement that it would have been obvious to have the print server within the printer is an inaccurate interpretation of former Claim 37 (and now amended claim 36). Specifically, Claim 37 recites that the print server is located on a substrate, not just within a printer. Leclair discloses at col. 9, lns. 39-50:

Initiator 600 then submits a request to server 610, which may be, for example, server 310 of FIG. 3 (step 510). **If the output device has an embedded server**, initiator 600 may submit the request directly to I/O device 350. Initiator agent 625 of initiator 600 formulates the request as an HTTP "POST" command. The POST command contains a URL of the location of the data to be outputted. The body of the request contains the page/request. The page/request may be encoded using MIME, in which

case the lines following the command might include `ContentType` and authentication headers, to prove the initiator has permission to perform the requested operation. The POST request may also include information about the requirements such as the destination output device, output format type, and other special requirements. Alternatively, a user may invoke a browser or custom HTTP client to submit the same information as the POST command to the server. (bold added)

Leclair discloses that an output device may have an embedded server. Leclair does not disclose that the embedded server is located on the same substrate as a processor that performs a print function, a system I/O, and formatter controller. It is also noted that Leclair suggests that the output device may have an embedded server in the context of communicating network requests to devices. Leclair does not pertain to the field of the structure or manufacture of printer formatters. Leclair pertains to controlling devices over the Internet and recites that the printer may have an embedded server to demonstrate that the request signal (Leclair, col. 9, lns. 39-43) may be sent across the network to a printer instead of a server. That example is not associated with the structure of a printer formatter. There is no motivation or suggestion expressed or implied in Leclair for locating a print server on a substrate having a processor, system I/O, and a formatter controller.

Thus, for at least the reasons discussed above, amended Claim 36 (having the “substrate” limitation of previous Claim 37) is believed novel and non-obvious over the combination of Leclair and Honma. Claims 38-52 depend from Claim 36 and are believed allowable for at least the same reasons.

Claim 38 recites that the printer formatter of Claim 36 comprises a single microchip. In the Office Action, Claim 38 was rejected over Honma and Leclair in further view of Chadez et al. The Office Action states that Honma and Leclair do not disclose firmware for specifically having a single microchip that includes the processor, the system I/O, the formatter controller, and the print server. The Office Action cites Chadez et al., col. 2, lns. 45-51 as disclosing printer firmware for specifically having a single microchip having those components. Chadez et al. discloses at col. 2, lns. 45-51:

The controller 26 controls operation of the printing mechanism 34 and the print engine 36. The controller's CPU 28 is preferably implemented as an Application Specific Integrated Circuit (ASIC) that is designed to support serial and parallel I/O functionality with the host, compress and decompress the raster data, communicate with the print engine, and send the host data to the engine.

In the cited paragraph, Chadez et al. discloses that a controller that controls the operation of a printing mechanism is implemented by the same ASIC that has a controller for a print engine. Chadez et al. does not disclose or suggest that the ASIC includes a print server.

Applicants respectfully assert that there is no motivation to combine the references cited in the Office Action. Honma discloses an image forming system having dispersed systems and components. Honma does not discuss or pertain to the structure of printer formatter chips. Leclair et al. pertains to network communication, not the structure of printer formatter chips. Chadez et al. relates to neither Honma nor Leclair et al. in that Chadez et al. relates to firmware for interleaving printing operations with non-printing operations. Chadez et al. does not pertain to performing non-print engine and/or non-print formatting functions, network communications, or any other operations that do not pertain to processing a print job, i.e., does not pertain to integrating on a single chip processes that are not performed within a printer with processes that are performed within a printer. Specifically, Chadez et al. does not pertain to managing print data traffic among two or more printers. Thus, there is no motivation or suggestion expressed or implied in any of the cited references to combine themselves with any of the technologies of the others.

The suggestions/motivations that are stated on page 10 of the Office Action for combining the references are potential advantages of the presently claimed invention. Reciting advantages or potential advantages of a claimed invention and then stating that those advantages provide the motivation to combine references, without further explanation, reasoning, or further motivation, is improper hindsight reconstruction, i.e., all of the basis stated in the Office Action for combining the references are advantages of the presently claimed invention, and are not from the references themselves. In addition, the statement in the Office Action that interleaving printing operations with non-printing

operations takes advantage of the non-printing phase to compress raster data and other general operations is not a suggestion or motivation to modify the ASIC (of Chadez et al.) to include network or data trafficking functions performed by components that are located outside the printer. That is, Chadez et al. pertains to combining previously existing inner-printer functions on the same ASIC. Chadez et al. does not pertain to incorporating into the ASIC functions that are external to print job processing functions. Thus, the combination of references is merely a hindsight reconstruction of bits-and-pieces of different art that are being combined for the purpose of realizing the advantages of the present invention. Such a reconstruction is improper. For at least these reasons, Applicants traverse the combination of Honma, Leclair, and Chadez et al. as improper hindsight reconstruction.

For at least the reasons stated above, Claims 38 and 39 are believed novel and non-obvious over the combination of Leclair, Honma, and Chadez et al.

#### Conclusion

Therefore, in view of the above remarks, we respectfully submit that this application is in condition for allowance and such action is earnestly requested.

If for any reason the Examiner is not able to allow the application, she is requested to contact the Applicants' undersigned attorney at (312) 321-4200.

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Respectfully submitted,

/John R. Lagowski/  
John R. Lagowski  
Registration No. 41,922  
Attorney for Applicant

BRINKS HOFER GILSON & LIONE  
P.O. BOX 10395  
CHICAGO, ILLINOIS 60610  
(312) 321-4200